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STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

Development of Statewide Guidelines for Reducing Wildlife Impacts from Wind Energy Development	)))	Docket No. 06-OII-1 Developing Statewide Avian Guidelines

COMMENTS OF THE CALIFORNIA WIND ENERGY ASSOCIATION ON WORKSHOP #3 TOPICS

The California Wind Energy Association ("CalWEA") appreciates this opportunity to provide written comments on the issues and questions posed for the September 27-28, 2006, workshop on wind siting guidelines. We appreciate the two-day extension of time granted to us by Rick York.

In addition to responding to the workshop questions, these comments elaborate on the comments made by Annie Mudge on behalf of CalWEA at the workshop, and also reflect the perspective of our consultant Dr. James Newman of Pandion Systems who was not able to attend the workshop (but was on the conference line for a portion of it).

Please note that, as we have addressed some of the workshop #3 questions in our prior sets of comments, we do not repeat everything here.

I. GENERAL COMMENTS

A. If the Guidelines adopt a "standard" course of study for determining impacts, the guidelines should also prominently recognize the validity of any alternative scientifically defensible evidence of impacts.

This recognition should apply to determinations of less-than-significant impacts and determinations that impacts will be less than significant with proposed mitigation (both under CEQA). The same principle should apply to showing compliance with CESA and state wildlife laws to the extent the guidelines address such compliance.

More specifically, if it can be scientifically demonstrated that a project can be expected to have impacts similar to those at studied sites through valid correlation techniques and confirmation that site characteristics are ecologically substantially similar to the studied site, further study should not be required.

B. The Guidelines should encourage streamlined CEQA review for certain categories of wind projects deemed to have less-than-significant impacts, subject to site-specific reconnaissance confirming that criteria have been met.[1]

Certain categories of wind projects should be recognized by the Guidelines to be low-impact projects to encourage counties to subject them to streamlined CEQA review. Projects that meet the criteria for these categories would not be subject to detailed field studies and mitigation requirements. Such streamlining should be done for several reasons: (1) to recognize the importance of quickly advancing low-impact wind energy projects in order to meet the state's important renewable energy and carbon reduction goals; (2) to encourage developers to seek out and prioritize low-impact sites; and (3) to parallel similar CEQA presumptions for other energy and industrial projects.[2] This streamlining could be considered part of the "green allowance" that could be afforded to wind projects in recognition of their overall environmental benefits as suggested by CDFG's Scott Flint at the workshop.[3]

The categories that should be presumed (subject to site-specific verification) to have low avian impacts[4] are:

(1) Small wind projects, e.g., 50 MW or below in size, that are not located in a sensitive area, such as a designated wildlife area as determined by the local agency, or state or federal law;

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[1] We have raised this idea in earlier comments, but have reorganized the proposal after additional contemplation.

[2] These include small hydroelectric projects (up to 5 MW) (CEQA Guidelines § 15328), cogeneration projects at existing facilities (up to 50 MW) (CEQA Guidelines § 15329), urban in-fill development (up to 5 acres) (CEQA Guidelines § 15332, and pipeline projects up to 1 mile (PRC § 21080.21, CEQA Guidelines § 15284).

[3] The green allowance can be justified by the fact that wind energy development is necessary to address the impact of climate change on birds (and every other living creature). As the American Bird Conservancy states, "ABC's Global Climate Change Program documents the significant changes in store for many migratory bird species in this century due to fossil fuel burning. Without a significant change in electrical power conservation and/or a major shift to alternative fuels, the U.S. is projected to increase its greenhouse carbon dioxide emissions between 2001 and 2025 by 43.5 percent. Global warming is predicted to cause changes in the ranges of birds, disruption of migration timing and synchrony with food resources." (See http://www.abcbirds.org/policy/windpolicy.htm.)

[4] As the guidelines will address avian impacts only, other impacts must be considered separately by the lead agency in determining whether streamlining is appropriate.

(2) In-fill projects (i.e., projects in between existing projects) in established wind resource areas (WRAs) that have not experienced significant impacts to wildlife;

(3) Wind projects of any size in areas designated by a lead agency as having established low bird usage;

(4) Replacement or repair of existing wind turbines that does not increase nameplate capacity by more than 25% or which either decreases, or does not increase, the footprint of the existing wind project, and where studies have shown no indication of significant impact.

Recognizing and encouraging reliance on these categories would not mean that all projects that ostensibly fit in them would always be deemed low impact; rather, it would be a suggested starting place (as is the case under CEQA guidelines for other such categories). For small projects, counties would make a determination that a project is not located in a sensitive area.

For the other three categories, counties could be encouraged to take a step-wise approach in response to an application[5] as follows:

1. First, make a determination that a designated area has been shown to have less-than-significant impact (possibly with identified mitigation measures) based on scientifically defensible information on species occurrence and abundance and exposure conditions, including findings from any post-construction monitoring that may have taken place.

2. Second, require site-specific reconnaissance by a qualified biologist to confirm that the project is appropriately placed in the low-impact category.

3. Third, if the site evaluation identifies sensitivities not consistent with the category, or if other unusual circumstances exist that warrant greater scrutiny, the necessary preconstruction studies should be focused on addressing the information gaps for the species of interest and should build upon existing studies of those species in the WRA.

If the project qualifies (and other issues do not trigger the need for a full-blown EIR), counties could proceed to review it under either an exemption from CEQA, a negative declaration or a mitigation negative declaration.

[5] The first step could also be taken proactively, before applications come in.

II. DAY 1 DISCUSSION QUESTIONS

A. Questions Relating to CalWEA & CDFG Presentations

1. (first of two questions in #1) **When should a lead agency require compensatory mitigation?**

Compensatory mitigation could be warranted in the following circumstances:

1) Where the loss of a specialized or rare habitat from construction activities is determined to result in a significant impact.
2) When significant animal "displacement" can be demonstrated to occur because of the presence of wind turbine facilities.
3) To compensate for the loss of a substantial number of individuals within a special status species. The Guidelines should recognize that it is not possible to guarantee replacement of the lost individuals of a species (i.e., to achieve a "no net loss" standard as might be applied, e.g., to lost wetlands). Therefore, the kinds of mitigation options that were identified by CDFG's Scott Flint at the workshop, such as off-site habitat restoration, enhancements, contributions to mitigation banks, etc., should be available to compensate for significant impacts under CEQA and to show compliance with CESA.

The guidelines should recognize that mitigation should apply only to significant impacts. Since some mortality will occur, applicants should not, for example, be required to mitigate for mortality to non-listed MBTA species whose populations will not be significantly affected by the predicted mortality. (This could be another part of the "green allowance" – recognizing the overall benefits of wind energy and the state's interest in promoting it.)

The issue of bats is more complicated. Apart from several listed species of bats, bats are not protected by state or federal laws in the same way as certain species of birds. Some bat species appear to be more susceptible to mortality than birds and other bat species, however little is known to explain this. Therefore, it is likely to be impossible to determine whether a particular wind project will significantly affect bat species until a great deal more research on factors contributing their susceptibility is conducted. Wind projects should not be required to mitigate impacts to individual bats in such situations involving non-protected bat species especially if prudent and feasible measures to minimize impacts to other wildlife have been incorporated into site selection and design of a wind project. Post construction monitoring can provide data on bat mortality that can help shape the guidelines going forward.

1. (second of 2 questions in #1) **When should a lead agency require post-construction monitoring?**

See our comments on the July 28 workshop questions (our points 3 and 4 under I.B). As the Kern county planning representative stated at the workshop, mitigation

should (and must, under CEQA) be defined at the outset to compensate for significant impacts.

2. What is the appropriate role for CDFG and USFWS to assist lead agencies in determining if data from other studies are applicable and adequate for developing impact assessments and mitigation measures?

Lead agencies should continue to consult with wildlife agencies when their expertise is needed. CDFG should continue to serve in an advisory role, but should not be put in a position to say what data is applicable before the studies are conducted or collected for a particular wind project. This would require CDFG to have conducted an assessment of the particular project before the application is submitted and be knowledgeable of other data sets applicable to the project.

USFWS will only "officially" comment if there is a federal nexus to the project. They have been known to provide "unofficial" comments not bound by any statutorily set schedule. This practice can delay lead agency decisions because USFWS is not bound to respond in a "timely manner." Therefore, the guidelines should not suggest that lead agencies wait for USFWS comments, although it could encourage project proponents to informally attempt to solicit timely input from the USFWS, and could likewise encourage USFWS (and CDFG) to comment in a timely manner.

3. What criteria should be established for using pre-existing information for impact determinations, including deciding if a categorical exemption is appropriate?

See general discussion regarding categorical exemptions in section I.B above. The applicability of pre-existing information is project-specific; the guidelines should avoid defining across-the-board what is useful or not. Whether information is useful will depend upon the size and location of the project, knowledge about the species and proximity to other wind projects where other studies have been conducted.

For projects for which EIRs are required, a wildlife scoping meeting should be held by the lead agency in which the scope of the pre-construction studies and appropriate methodologies are proposed by the developer, discussed and agreed upon in advance by the regulatory agencies, using the guidelines as a guide. The purpose of the scoping is to focus on a specific scope and methods for specific species in the WRA that are considered to have potentially significant impacts. For some species more detailed studies may be warranted, for others less -- e.g. use of existing applicable information may be sufficient, and for other species no site-specific studies may be needed at all. The scoping meeting would also identify larger knowledge gaps that need to be addressed but which cannot reasonably be the responsibility of the developer. In these cases, a small contribution to a larger research effort may be appropriate.

B. Kinds of Impacts

4. How much discussion should the guidelines include about impacts due to habitat loss?

The guidelines should list the topics potentially relevant to habitat loss from construction or displacement as they relate to avian species (as the guidelines are focused on avian impacts only) that may be relevant to a particular applicant. There are other resources (e.g., some of those listed as background documents for this proceeding) that describe specific impacts, and new studies are becoming available. The importance of habitat loss as an issue to evaluate for a particular project should be discussed during the wildlife scoping meeting.

5. How do the displacement and disturbance impacts due to wind energy development in California compare to other states and countries?

The concepts are the same but the specific impacts, i.e. magnitude and significance, etc., are different depending upon the species involved at the site.

6. What are the necessary steps to develop a cumulative impact analysis and what should the scope of that analysis be?

When a cumulative impact assessment is conducted, the first step is to determine the baseline condition for the impact one is addressing, e.g. population size of a given species. Second is to determine whether that species is stable, increasing or decreasing. Third is to determine what are the natural and anthropogenic factors (not only wind projects, but all other anthropogenic factors, such as housing developments, industrial emissions, cars, etc.) contributing to this stability, increase or decrease. Fourth is to determine to what degree the losses due to a particular wind project will affect the viability of the particular population. There are mathematical models (e.g., population viability analysis models) that can be used to determine the viability of the population and to estimate the contribution and conditions when a specific cumulative impact will be significant.

The issue is whether the impacts from a particular wind project, or wind resource area, are significant and, if so, whether this incremental negative effect will affect the viability of a particular species. Only if such an impact is suspected should a detailed cumulative impact analysis be undertaken.

It is important not to assume that a cumulative impact analysis is warranted in every instance or that a project's contribution to cumulative impacts is always cumulatively considerable. Otherwise, wind projects would virtually always have to proceed using the highest level of CEQA review: an EIR. This would not be a good policy direction for California and would add considerable cost to every wind project. In recognition of the potential for incrementally considerable contributions to cumulative impacts, the guidelines could suggest a range of reasonable mitigation measures which

lower-impact projects could adopt that would reduce their contribution to cumulative impacts to a level of less than significance so these projects could be approved on the basis of a mitigated negative declaration rather than an EIR.

C. Impact Assessments

7. How much detail should the guidelines provide on risk assessment protocol (e.g., should the guidelines specify how to develop a collision risk estimate)?

Again, the guidelines should reference the NWCC as a repository for state-of-the art information. At the present time, that would include this NWCC paper: Draft Ecological Risk Assessment White Paper, April 3, 2006. (See http://www.nationalwind.org/workgroups/wildlife/.)

8. What kind of data from other studies could be included in the guidelines to assist in evaluating potential impacts (e.g., a table showing flight-height data or fatality estimates for collision susceptible species from other studies)?

This would be helpful if we really understood these relationships with enough precision to be used in assessments. Even with such precision, birds and bats fly at different heights under different topographic, seasonal and weather conditions. Another consideration for migratory birds is whether they fly in broad fronts or follow more defined flyways. The issue is too complicated to include such specific information in the guidelines.

This question implies that quantitative risk assessments (i.e., to determine the probability of a given number of birds or bats being killed or injured) should be conducted, but such assessments will not be necessary in most cases where qualitative assessments are sufficient to determine less-than-significant impact.

9. How much analysis should pre-permitting studies include on potential risk to populations due to wind energy development?

See our comments in I.B, above, regarding a streamlined approach for low impact projects. Our previous comments have discussed a decision-tree framework for the analysis that should be required in particular cases.

10. How should Ecological Risk Assessment be used to evaluate potential impacts to bird and bat populations?

An ecological risk assessment (ERA) can be used to quantify the potential impacts to particular bird or bat species and provide an estimate of the probability of this happening. Both quantitative and qualitative ERAs can be conducted. (See NWCC white paper on Ecological Risk Assessment.)

D. Guideline Revisions

11. What type of ongoing forum would be useful to receive comments/suggestions to improve survey protocols and mitigation recommendations?

There are many existing forums, some of which are ongoing, including the national forums such as NWCC, AWEA, NREL, and USFWS, as well as Canadian and European forums. The CEC should keep abreast of these forums and participate in them where appropriate and should not attempt to duplicate them. The guidelines should be based on principles that will endure over time, and should reference these other forums which will provide continually updated information. This approach will minimize the need for revisions to the guidelines and eliminate the need for an ongoing forum at the state level.

12. How should knowledge advances from PIER research be incorporated into revised guidelines?

See previous comment. The guidelines should be based on principles, referencing the best ongoing forums and sources of information, so that they do not need to be continually updated. PIER research should be contributed to the NWCC's annual conferences and proceedings on wind-wildlife research including national scientific organizations such as The Wildlife Society. Whether PIER research will lead to revised guidelines will also depend on the specific nature of the research and the results which cannot be predicted at this time.

III. DAY 2 DISCUSSION QUESTIONS

A. Turbine Design & Avoidance/Minimization Opportunities

1. What evidence do we have that the new, larger turbines reduce collision impacts to raptors compared to old turbines? To resident/migratory songbirds? To resident/migratory bats?

The presentation made by Bob Thresher of NREL at the workshop provided a reasoned hypothesis that larger turbines will have lower impacts, which reflects the intuition of many observers, including avian advocates. (Also see next response.) It is our understanding that this hypothesis will be supported by the data coming out from the Diablo Winds repower project in the Altamont Pass. Preliminary evidence comparing two Altamont projects also suggests that fatalities are reduced as turbine size increases. The two projects compared were the Patterson Pass Wind Project (PPWP) – a 22 MW project comprised of 336 65-kW turbines (among the largest in the Altamont) -- and the Tres Vaqueros Wind Project (TVWP) – a 28 MW project comprised of 82 330-kW

turbines. A preliminary analysis of these projects shows that the observed all-bird fatality rate was approximately four times higher at PPWP than at TVWP. The observed raptor fatality rate was 1.8 times higher at PPWP than at TVWP.[6] More complete information on the effects of turbine size and repowering are expected after additional surveys are conducted by the monitoring program mandated by Alameda County.

2. What elements of turbine design/siting can be changed during the pre-permitting phase of development to reduce predicted impacts to birds and bats?

The following are some of the measures the industry has taken to avoid and reduce avian impacts, along with evolutions in technology that have this effect:

1. Modern turbines are much larger than the early turbines, so fewer than one-tenth as many structures are needed to generate the same amount of energy;
2. As demonstrated by Bob Thresher in his presentation, blades on modern turbines rotate more slowly, are more visible, and are situated much higher, so they are not only easier for birds to avoid, but are high enough to avoid sensitive flight zones for many raptors;
3. Perching opportunities on turbines and their towers have been minimized;
4. Power lines are buried when feasible and otherwise constructed to minimize the risk to raptors;
5. Guy wires are not used on new turbine towers and are avoided with met towers;
6. Turbines located within new wind parks can be sited to avoid any known land features that are generally known to attract avian or bat species, or as determined in pre-construction biological studies.

3. Are there examples (other than Foote Creek, WY) where information about site characteristics influenced turbine siting?

There are likely to be many such examples, as project developers routinely take avian impacts into account in order to avoid significant impact. One California example is the Shiloh I project in Solano County, where turbines were micro-sited to avoid placing turbines in an area used more heavily for kiting based on a use and abundance study.

4. What kinds of Best Management Practices, general guidance on turbine siting/design, and other generic avoidance measures have been useful on past projects and should be included in the guidelines?

As the state of knowledge is growing, it would be best for the guidelines to reference continually updated repositories of information, in particular, the National Wind Coordinating Committee, rather than try to recreate the wheel and keep it current. The guidelines could list general measures presently known to reduce avian impacts and

[6] See "Progress Report: Fatality Searches at the Patterson Pass and Tres Vaqueros Wind Projects (January 25 – December 15, 2005)," February 2006 Draft, prepared for Babcock & Brown by WEST Inc.

that are generally feasible as ones that should be implemented by all projects. These would include paying careful attention to turbine lighting, burying power lines whenever possible, and avoiding guy wires on met towers.

The guidelines could also include a menu of micro-siting techniques that can be considered in cases where concerns of significant impacts exist. These could include measures such as avoiding landscape features known to attract large numbers of avian or bat species. The guidelines should, of course, recognize that many factors are in play in designing a wind project (such as micro-wind quality, visual impact, proximity to transmission lines, set-back requirements, etc.) and that every project is different. The guidelines should therefore not recommend that measures be implemented across the board.

B. Mitigation Issues

5. How can lead agencies establish an effective mechanism for implementing post-construction mitigation? (e.g., if a Technical Advisory Committee (TAC) is part of an adaptive management program, how are recommendations from the TAC translated into management action?)

As we stated in above and in earlier comments, the specifics of mitigation to be imposed should be defined at the time of project approval. The adaptive management concept is still in its infancy for use in wind projects, and there are no guidelines or accepted methods for such an approach for wind projects. Adaptive management has been used more successfully in projects that can be more easily adjusted, such as timber harvesting. Therefore, we recommend that the Commission not pursue adaptive management at this time as a mitigation approach. If relatively low-cost actions, such as blade painting, are later determined to be effective, this information will appear on referenced sources of information (such as NWCC) contained within the guidelines, and can be addressed in periodic updates to the guidelines.

6. Are there examples of successful implementation of seasonal shutdowns or other operational mitigation in reducing collision fatalities?

The Commission should use extreme caution when considering whether to discuss seasonal shutdowns as a mitigation option. First, seasonal shutdowns have been implemented in just one area – the Altamont – and results regarding effectiveness are not yet in. Second, and more importantly, seasonal shutdowns are highly unlikely to be a feasible mitigation measure. The technique is being tried in the Altamont due to avian fatality levels that are higher than anywhere else in the nation and because energy production is relatively very low in the winter shutdown months, a condition that is fairly unique to that site. The commission should be mindful that even having shutdowns on the table as a potential mitigation option can upset project financing due to the extremely high risk exposure it places on a project. The whole point of the guidelines is to ensure

that projects are not located at sites where avian fatalities are so high that shutdowns would be warranted.

If shutdowns are discussed at all, it should be in the context of episodic migration events, if and when those become predictable and affordable. This topic would be better left for a future update of the guidelines, however.

7. How can mitigation options be structured to provide: (a) some certainty for mitigation implementation, and (b) some certainty for financial risk for wind developers?

This issue should be left to the project proponent and lead agency, although addressing mitigation though a broader or collective program, as discussed in response to question 10 below, could be helpful.

8. How much detail should the guidelines include on mitigation options? For example, should the guidelines provide suggested language for avoidance and compensatory mitigation that could be used by a lead agency in their permit conditions?

It is not clear what is meant by "suggested language." Given the unique nature of each project, it would be inappropriate to specify mitigation approaches. Some projects will require mitigation and others will not. In addition, the type of mitigation will differ. As we have suggested in earlier comments, the guidelines could supply a menu of possible mitigation approaches.

9. How can guidelines provide guidance on determining the nexus between impacts and compensatory mitigation, and the amount of mitigation?

See previous response.

10. Should compensatory mitigation programs for wind energy be established on a county/regional/statewide level? How would such programs be administered?

Yes, however, the guidelines should recognize that the development of such programs should not hold up progress on current projects.

Counties with significant planned expansions, such as Kern County, should explore a regional compensatory mitigation program if significant impacts are predicted under CEQA, or if state wildlife laws are triggered. If mitigation is necessary, a regional approach is likely to be both more efficient and more effective. However, the actual mitigation need not be restricted to within the county unless it is for a species that only occurs in that county.

The program could be administered by the county in consultation with wildlife agencies. Alternatively, the county or industry could work with a private conservation group so that projects triggering mitigation could pay into a central fund managed by the group to pay for a mitigation program approved by CDFG. Such a program could help expedite project permitting.

If it is determined by the state that a particular species of bird and bat is declining at a regional or statewide level and the wind industry is contributing to this decline, the wind industry *and all other anthropogenic sectors contributing to the decline* could be "taxed" to pay for a statewide research and compensatory mitigation program.

11. When is it acceptable for compensatory mitigation to include an option for contributing to a research fund?

Contributions to a research fund should be considered when (a) little is known about the abundance and flight behavior of particular species (e.g., bat species), (b) it is unreasonable to expect the project proponent to fill the research void, and (c) when there is some reasonable basis to suspect that impacts could possibly be significant to the species, thus justifying mitigation. Without (c), compensatory mitigation should not be required, although the project proponent may volunteer to make a contribution to a research fund as part of the project proposal.

If significant impacts are later discovered, but were reasonably not predicted (due to lack of overall species information and lack of proven correlation techniques, such as with bats), then contributions to research efforts could be made to study the problem and to develop potential solutions, with additional funds going toward cost-effective solutions. Such contributions and solutions should be anticipated in advance with a defined financial exposure limit that allows the project to move forward in the face of uncertainty.

12. What compensatory mitigation models (e.g., wetland or endangered species mitigation banks) would be appropriate for wind energy mitigation?

The mitigation bank concept is potentially very useful where impacts are expected to be significant and an existing and acceptable mitigation bank exists that a project proponent can buy into. However, suggesting that a project proponent should purchase mitigation bank credits when such a bank does not exist (as is currently the case in many areas) is not workable. Before recommending any particular model, a more in-depth review of other compensatory mitigation models needs to be conducted. Generally, all these models have some set resource "ratio" e.g. 2 to 1, 10 to 1 etc., for mitigation depending upon the type of impact. Some mitigation banks have regional limitations to their use. These and other issues need to be understood before a particular model is suggested.

We appreciate your consideration of our comments.

Respectfully submitted,

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